

Shuttle Atlantis heads home from space station

July 19 2011, by Jean-Louis Santini

The crew of Atlantis undocked Tuesday from the International Space Station, wrapping up the last visit by a US shuttle to the orbiting outpost and setting its sights on an emotional homecoming.

With a spectacular orbital sunrise illuminating a vessel in the sunset of its career, Atlantis maneuvered away from the ISS at 0628 GMT about 350 kilometers (217 miles) above the Pacific Ocean.

"Thanks so much for hosting us. It's a great station, and it's been an absolute pleasure," Atlantis commander Chris Ferguson said of his crew's eight-day stay at the ISS, closing the book on the storied relationship between the two iconic spacecraft.

"We'll miss you guys. Godspeed," space station [flight engineer](#) Ronald Garan called out as Atlantis floated away.

As the age of the shuttle -- which has carried US astronauts into space longer than any other vessel -- drew to a close after 37 dramatic rendezvous with the ISS, their crews Monday exchanged embraces and kisses before shutting the hatches separating them for a final time.

Astronauts placed an American flag that flew on the very first [shuttle mission](#) in 1981 on the passageway separating the shuttle and the space station, to symbolize the end of one era of US spaceflight and the dawn of a new one.

"When this flag returns again someday to Earth by astronauts that came up on an American spacecraft, its journey will not end there," said Ferguson.

"Its journey will continue, it will leave low-Earth orbit once again, perhaps to a lunar destination -- perhaps to Mars."

Atlantis blasted off July 8 with a four-member crew, lugging the Raffaello multipurpose logistics module and several tons of supplies to the ISS to help sustain the outpost for a year.

The shuttle is scheduled for a predawn touch-down Thursday at Florida's [Kennedy Space Center](#).

Emotions ran high during the undocking and its aftermath, with Atlantis accomplishing one final task after another, including a flyby of the ISS to document seldom-seen outer parts of the station, as it prepared for re-entry in two days' time.

NASA flight director Dan Tani praised the work of "the magnificent machines that delivered, assembled and staffed our world-class laboratory in space."

The warm words gave way to a focus on getting the shuttle crew home safely. Atlantis began the inspection of its protective heat shield, using the robotic arm to scan and photograph the wings' leading edges, the nose cone and the shuttle's underbelly.

"At this point the shuttle crew is now engaged in late inspection activities," flight director Kwatsi Alibaruho told reporters.

"We are looking forward to entry and landing on Thursday."

With the conclusion of America's vaunted shuttle program, astronauts will now rely on Russian Soyuz rockets for rides to the ISS until a new US space craft -- a commercial launcher and capsule built by a private corporation in partnership with NASA -- is ready to fly sometime after 2015.

NASA said Monday it had reached agreement with United Launch Alliance (ULA) -- a joint venture between Boeing and Lockheed Martin -- to try to adapt the Atlas V commercial rocket to send astronauts to the ISS.

The end of the shuttle program means that opportunities for astronauts to embark on journeys to space will become much rarer.

"Of course it's hard, because we dedicate our lives to fly in space. We are astronauts and it's what we do for a living," astronaut Steve Robinson, a veteran of four [shuttle](#) missions, told AFP this month.

Over the course of the three-decade-long program, five NASA space shuttles -- Atlantis, Challenger, Columbia, Discovery and Endeavour -- have comprised a fleet designed as the world's first reusable space vehicles.

Besides the prototype Enterprise that never flew in space, only three have survived after Columbia and Challenger were destroyed in accidents that killed their crews.

At a time of US budget austerity, President Barack Obama has opted to end the program that has averaged about \$450-500 million for each of its 135 missions.

Obama also canceled Constellation, a project that aimed to put US astronauts back on the Moon by 2020 at a cost of \$97 billion.

NASA administrator Charles Bolden told US lawmakers last week that there would be opportunities in commercial space flight in the near future.

"We are not abandoning the human space flight. We have a big job to do of operating the [ISS](#) for the next nine years at least."

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